CLAIMS

1. A plasma display panel comprising:

electrodes arranged on a substrate on a rear side;

a dielectric layer provided to cover the electrodes; and

a fluorescent layer formed on a front side of the dielectric layer,

wherein the dielectric layer is formed of a mixture of a base material and a filler having a smaller relative dielectric constant than the base material, and the dielectric layer has a smaller relative dielectric constant and a larger reflectance than a layer formed of the base material but not containing the filler.

2. A plasma display panel according to claim 1, wherein the relative dielectric constant of the dielectric layer is 10 or lower.

3. A plasma display panel according to claim 1 or claim 2, wherein the filler is a silica powder.

4. A plasma display panel according to claim 1 or claim 2, wherein the filler is an alumina powder.

5. A plasma display panel according to claim 1 or claim 2, wherein the filler is hollow glass micro-balloons.

6. A plasma display panel according to any one of claim 1 to claim 5, wherein the thickness of the dielectric layer is 10 μm or less.

7. A plasma display panel comprising a dielectric layer in which a filler for enhancing reflectance is dispersed,

wherein the filler comprises pieces individually having outward appearance of flakes whose front and back faces are

oriented in a direction along a surface of the dielectric layer.

8. A plasma display panel according to claim 7, wherein the filler is mica coated with titanium dioxide.

9. A plasma display panel according to claim 8, wherein the dielectric layer contains a low-melting-point glass as a base material.

10. A plasma display panel according to claim 9, wherein the content of the filler in the dielectric layer is a value within the range of 10 to 80 wt%.

11. A plasma display panel according to claim 8, wherein the dielectric layer contains silicon oxide as a base material.

12. A plasma display panel according to claim 11, wherein the content of the filler in the dielectric layer is a value within the range of 10 to 80 wt%.

13. A plasma display panel according to claim 7 or claim 8 further comprising barrier ribs for partitioning a discharge space, wherein sidewalls of the barrier ribs are covered with the dielectric layer.

14. A plasma display panel according to claim 13, wherein the barrier ribs are black.

15. A plasma display panel according to claim 14, wherein the black barrier ribs has a transmissivity of 10 %/ 10 μm or less to visible light.

16. A plasma display panel according to claim 14, wherein the dielectric layer has a reflectance of 50 % / 10 μm or more.

17. A substrate structure to be used for fabrication of a plasma display panel as set forth in claim 13, which is provided

with the barrier ribs and the dielectric layer.

18. A substrate structure according to claim 17, wherein the barrier ribs are black.

19. A plasma display panel according to claim 7 or claim 8, wherein a light-shielding layer is provided on a front side with respect to a discharge space and the dielectric layer is provided on a rear side with respect to the light-shielding layer.

20. A substrate structure to be used for fabrication of a plasma display panel as set forth in claim 19, wherein the light-shielding layer and the dielectric layer are provided on a substrate.

21. A process for manufacturing a substrate structure wherein, in manufacture of the substrate structure as set forth in claim 17 or claim 20, the dielectric layer is formed by applying onto a substrate a low-melting-point glass paste in which a flake-form filler for enhancing reflectance is mixed, followed by burning.

22. A process for manufacturing a substrate structure according to claim 21, wherein the dielectric layer is formed by applying onto a supporting face a low-melting-point glass paste in which flake-form mica coated with titanium dioxide and particulate titanium dioxide are mixed, followed by burning.

23. A process for manufacturing a substrate structure according to claim 22, wherein the mixture ratio of the particulate titanium oxide to the flake-form mica is a value within the range of 5 to 30 wt%.

24. A process for manufacturing a substrate structure

according to claim 23, wherein the particulate titanium dioxide has a particle diameter of 5 μm or less.

25. A process for manufacturing a substrate structure wherein, in manufacture of the substrate structure as set forth in claim 17 or claim 20, the dielectric layer is formed by applying onto a substrate a colloidal silica in which a flake-form filler for enhancing reflectance is mixed, followed by burning.

26. A process for manufacturing a substrate structure wherein, in manufacture of the substrate strueture as set forth in claim 17 or claim 20, the dielectric layer is formed by attaching to a supporting face a dielectric sheet in which a flake-form filler for enhancing reflectance is dispersed in a state such that the filler is uniformly oriented.

27. A process for manufacturing a substrate structure wherein, in manufacture of the substrate structure as set forth in claim 17 or claim 20, the dielectric layer is formed by attaching and setting to a hollow form a dielectric sheet in which a flake-form filler for enhancing reflectance is dispersed in a state such that the filler is uniformly oriented, and then transferring the dielectric sheet to a substrate.